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ABSTRACT

This study analyzed the effect of an instructor's modeling behavior on the amount of self-disclosure exhibited by 120 students in interpersonal communication classes. Under one condition, the instructor revealed little or no information about self; under the second condition, the instructor made at least four self-referent statements during every class period. Self-disclosure by students was measured over an entire semester, by means of a revised version of the Jourard Self-Disclosure Inventory. Students also participated in a taped self-disclosure exercise at the end of the class; the tapes were rated by eight judges. Results indicated that students in the class in which the instructor provided a model of self-disclosure revealed more information, over time, in the categories of attitudes and opinions, tastes and interests, work or studies, and personality. Significant differences in the taped exercises were found for the categories tastes and interests and work or studies. (Author/AA)

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MODELING AND SELF-DISCLOSURE IN THE CLASSROOM *

by

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ABSTRACT

The intent of the present study was to analyze the effect of an instructor's modeling behavior on the amount of self-disclosure exhibited by students in Interpersonal Communication classes.

120 undergraduate students were treated to either of two experimental conditions: 1) instructor revealed little or no information about self, or 2) instructor made at least four self-referent statements during every class period. Self-disclosure of students was measured over an entire semester through a revised version of the Jourard Self-Disclosure Inventory. Results were: under condition #2 groups revealed more information over time in the catagories of: attitudes and opinions, tastes and interests, work or studies, and personality.

An evaluation of students' actual self-disclosure behavior was measured through a self disclosure exercise at the end of the class and rated by eight judges. Under condition #2 students revealed more information in the areas of tastes and interests and work or studies than the control group.

MODELING AND SELF-DISCLOSURE IN THE CLASSROOM

Tharp (1975) identifies five "means of social influence" or learning conditions that can be present in any environment: reinforcement, instruction, feedback, cognitive restructuring, and modeling. Each of these has potentially significant influence on the amount of increased learning realized. The present study focused only on the "modeling" effect an instructor has on students measured by the amount of self-disclosure evident in the classroom setting. Little research has been developed that examines the phenomenon of imitation behavior by students in an actual classroom when confronted by an instructor who models learning behaviors through self-disclosure.

The importance of such a study relates to several educational needs including: a closer examination of the effect of an instructor's communication behavior on student learning, exploration of a topic of considerable interest in the Interpersonal Communication classroom where the intent is to analyze such behavior, and finally examination of important implications for the instructor who desires to achieve maximum levels of self-disclosure behavior in the classroom.

Self-Disclosure: Definitions and Previous Research

In their article, Jourard and Lasakow (1958) defined self-disclosure as "the process of making the self known to other persons." Jourard also claimed that self-disclosure is "an accurate portrayal of the self to others," and is an "identifying criterion of a healthy personality." Culbert (1968, p. 37) has also defined self-disclosure as the "explicit

communication of personal information that others would be unable to acquire unless he discloses it."

Previous studies of self-disclosure have emphasized the amount of self-disclosure in the context of the relationship of the sender to the receiver. Pino and Cohen (1971, p. 204) observed that "given a high level of self-disclosure vulnerability, the discloser may be classified as 'receiver-relevant' or 'receiver-irrelevant,' according to whether self-disclosure is perceived by the discloser as likely to make a difference in his relationship with the receiver." They attempted to measure the effectiveness of self-disclosure on leadership styles. They hypothesized that "Group Centered Style" would be more effective in fostering group self-disclosure than "Leader Guided Style." Their study, however, revealed that 1) leader guided trainer style proved more effective in promoting self-reference statements by group members and 2) group guided style led groups to make more "self-inregard-to-peer" self references. They explained this last finding as being due to group norms and group pressures within the group guided styles. For the purpose of measuring self-disclosure Pino and Cohen defined self-disclosure as statements either being self-referent or non self-referent.

The results of Culbert's (1968) study demonstrated that his first hypothesis, "that members of T-Groups where the trainers are more self-disclosing will enter into a greater number of therapeutic relationships than others," was not true; in fact, in some instances, the study demonstrated that the opposite result was more likely to occur. However, the results of the study did tend to support Culbert's second hypothesis:

"members of the T-Group where the co-trainers are more self-disclosing will experience a greater positive change in self-awareness," especially in the early stages of the interaction. For the purpose of his study Culbert defined self-disclosure in three different terms: 1) trainer talks exclusively about self, 2) trainer discusses ways some group members or incidents affect him, and 3) trainer discusses the effect his participation has on the group.

These studies demonstrate the need for further research on the effect of leader style affects on groups in regard to self-disclosure and especially for the need of such studies in classroom settings.

Theoretical Foundation-Imitation Learning

Observational learning and modeling behavior have been a study of interest by researchers for many years. Bandura and his associates (1965) have done extensive research on assorted theories of observational learning. One of his most famous studies (1965b) examined the notion that the acquisition of matching responses result from continguous sensory stimulation, in other words, any response can be attached to any stimulus and vice verse.

Miller and Dollard (1941) showed that imitation can be learned under appropriate conditions. For the learning of the imitator the behavior of the leader may be an unnecessary component of the stimulus contact. Therefore all learning is not necessarily dependent on the leader.

These researchers have given us information about the process to imitate. Church (1957) accounts for learning by imitation. After one

learns to imitate by responding to a stimulus, an observer may respond in the same way to an environmental stimulus at a later date, merely by observing the original response; this is considered learning by imitation.

Another way of looking at the area of study of imitation behavior is to examine the alternatives to it. Two have been identified: 1) opposition, and 2) the tendency to ignore social stimuli. Most experimental situations are likely to favor the appearance of imitation, particularly when one model is an adult and the Ss are children. Blake (1958) found matching behavior when situations such as gift giving, volunteering, petition signing, etc. occurred, but under conditions such as the presence of a jay walking "bum" (a negative stimulus) opposition or ignorance occurred. Bandura believes that imitation, because it is readily observed and seems to have wide applicability in the study of social processes, can be regarded as a matter of choice. Organisms that have learned to imitate are likely to have also learned other responses.

One major application to the study of imitation based on the importance of imitation for personality development is by Simmel, Hoppe, and Milton (1969). They discuss terms such as identification, introjection, and internalization in describing events when a child manifests broad behavioral characteristics apparently adopted from observations of parental behavior. Lazowick and Osgood (1956) both link identification with the child's overt responses and the parent's behavior. They see a direct link between the mediating process between

the performer-parent and the observer-child. This suggests a connection between internal events in two different organisms.

Rosenbaum and Aronson (1967) conducted an experiment showing that concepts may be learned by observation. Subjects watched a confederate solve six water jar problems by a complex or simple method and then were required to solve six more problems. A control group solved the twelve problems alone. Both methods of solution were available for all problems, but the Ss exposed to the complex solution adopted that solution and took more time than the Ss in the other two conditions.

There are also suggestions in the available research that the performance of performer and observers may differ and that in some instances learning by observers may be superior to the achievement of the performers they observe. Hillix and Marx (1960) studied this hypothesis and suggested that performers make decisions among the available choices, which observers are not required to do, and may interfere with learning the location of correct responses.

One last interpretation of the imitation process to be discussed is Kanfer's and Marston's (1963, p. 31) "vicarious reinforcement" effects. They state, "on the case of direct reinforcement, incentive-produced motivation in observers is most likely to affect the speed, intensity, and persistence with which matching responses are executed." Thus, a performer may or may not receive reinforcement for his or her behavior. In the presence of an observer, this event may have a variety of consequences on the behavior of the observer.

More recently researchers have examined the topic of self-disclosure

and its relationship to imitation behavior. Paul Cozby (1972) conducted a study examining the "norm or reciprocity" in low, medium, and high self-disclosure situations. First, he hypothesizes that the relationship between disclosure and liking is non-linear; and second, that reciprocity will break down at high levels of intimacy. Both hypotheses were found significant at the .05 level.

Drag (1968) concluded a study examining self-disclosure of subjects in an interview situation. He found that when the experimenter entered into the self revealing dialogue with the Ss prior to the interview, the Ss disclosed more. Thus, the experimenter's behavior seemed to be a model for the subjects.

Jourard and Jaffe (1970) examined the "modeling phenomenon" and self-disclosure. They looked directly at emulation of the experimenter's behavior in variety of content and duration of self-revealing utterances. A significant relationship was found in both experimental situations at the .01 level.

A fourth study by Ehrlich and Graeven (1971) looked at self-disclosure behavior between two people who had no prior contact with each other. Five hypotheses were tested, and the results were as follows: 1) the Ss imitated the intimacy level of the confederate; 2) their self-disclosure behavior displayed moderate consistency in the laboratory situation; 3) Ss in both conditions manifested the same pattern of topical disclosure. The results showed that 1) interpersonal attraction does not affect the level of self-disclosure, and 2) past self-disclosure behavior does not affect the laboratory self-disclosure behavior.

In conclusion, five major points can be made from this review of previous research: 1) imitation behavior tends to generalize to other responses and is manifested in other contexts; 2) the type of stimulus influences the category of responses; 3) concepts may be learned by observation; 4) imitative behavior, on the part of the observer, may be superior to the performer's behavior, and 5) the specific level of self-disclosure exhibited by the performer may be imitated by the observer.

Collectively, these findings provide a foundation for expecting that, in a classroom setting, the level of self-disclosure manifested by students is functionally related to the self-disclosure behavior of their instructor. Moreover, the nature of the relationship is both positive and linear. At least, we would expect to discover no substantial departure from linearity.

The Instrument

Sidney Jourard and Paul Lasakow developed the Jourard Self-disclosure Questionnaire (JSDQ) instrument in 1958 to measure the amount of self-disclosure revealed by subjects in response to a variety of target persons. The original instrument included 60 items--10 items in each of six content areas: attitudes and opinions, tastes and interests, work (or studies), money, personality, and body. Items were scored as 0 = no disclosure to the target person, 1 = disclosure only in general terms, or 2 = full and complete disclosure about the item. Since this instrument was originally developed, it has been the most widely used tool to assess individual differences in self-disclosure.

Recently the instrument has come under rather severe criticism for various inconsistencies. In Cozby's review (1973) of self-disclosure research, the conclusion is made that there is little evidence for the predictive validity of the JSDQ since researchers have been unable to find a relationship between the JSDQ and actual disclosure in a situation (Ehrlich & Graeven, 1971; Himelstein & Kimbrough, 1963; Lubin & Harrison, 1964; Vondracek, 1969). The difficulty is that the researchers have used the JSDQ as a predictor of self-disclosure behavior. Subjects are asked how much information they have disclosed to the various target persons in the past and are then placed in an experimental condition to test how much information they actually do disclose, often to a stranger. It seems obvious that these two measures would not correlate.

Pederson and Breglio (1968) attempted to correlate two different versions of the JSDQ. Again they were attempting to correlate self-disclosure in the past with self-disclosure in the present and in the presence of an experimenter. One result of this study, however, was that there was a high correlation between total depth of self-disclosure (as measured by independent raters) and total amount of disclosure. Their conclusion, although not completely substantiated, is interesting. Since the correlation is of the magnitude of an acceptable reliability coefficient, the amount of disclosure may be substituted for depth of disclosure.

The issues of "amount" and "quality" of self-disclosure and the inability of researchers to adequately measure both has been raised recently by Norton, Petronio and Leenhouts (1975). Their point is

that within each item of self-disclosure, there remain degrees (or "dimensionality") of the value of that information to the person who is self-disclosing. Thus, one question on the JSDQ under "tastes" may be more risky for one individual to reveal as opposed to another individual who would see the same item as relatively "safe," and thus, for him to share information about himself in the same area would have a very low risk level.

Vondracek (1969) attempted to design a measurement of the behavior of self-disclosure. Correlations between the JSDQ and the measures of amount and intimacy of self-disclosure were .20 and .14 respectively. The fact that these correlations are relatively low and not statistically significant appears to confirm the hypothesis that a self-report measure of self-disclosure and a behavioral measure assess different variables.

Pederson and Higbee (1968) pointed out that much research in the last several years has attempted to modify the JSDQ in several respects, including length of questionnaire, target persons, instructions, and nature of the items. Lubin (1965) attempted to modify the JSDQ to be used prior to a training program of managers in an industrial setting.

In the present study several major changes were made in the JSDQ to respond to the criticisms mentioned above. First, the experiment was conducted in a natural classroom setting and continued over the period of an entire semester. The target persons included the instructor of the class, other classmates, and an outside "best friend". The "best friend" was included to determine if self-disclosure outside the experimental condition increased. In a study by Culbert (1968) the group with the high self-disclosing leader increased in the amount

of self-disclosure to an outside person to a significant degree.

The questions were cut to half the size of the original JSDQ (five items in each category instead of 10), and another category was added with a focus on expressing emotions, thus making the questionnaire easier to administer and to test the level of emotional disclosure. It was felt by the authors that a measurement of emotional disclosure was not tested by any of the instruments available.

With these modifications the authors felt they had corrected previous shortcomings in self-disclosure research:

1. Self scores often rate amount of self-disclosure to family members and close friends and then test actual behavior with strangers. In the present study subjects were asked to rate amount of self-disclosure to other participants in the experimental condition and were rated in the same way by observers.

2. Often correlations are made between past self-disclosure and present self-disclosure. The present study measured only self-disclosure under study conditions.

3. The JSDQ does not measure emotional self-disclosure. Thus the present study added the "Emotions" section to the instrument.

4. Many studies do not attempt to measure actual behavior in self-disclosure and instead use only a self-report. The present study used independent raters to measure actual behavior.

Hypotheses

This study was designed to test the effects of a model's (the instructor's) self-disclosure behavior on the respondents' level of self-disclosure over an extended period of time.

The primary hypotheses focused on the interactive effects of time on self-disclosure. From this hypothesis, three different results were expected.

1. The high self-disclosure groups will disclose a significantly greater amount of information on each of the four repeated measures over the semester in each of the five categories to the instructor.

2. The high self-disclosure groups will disclose a significantly greater amount of information on each of the four repeated measures over the semester in each of the five categories to classmates.

3. The high self-disclosure groups will disclose a significantly greater amount of information on each of the four repeated measures over the semester in each of the five categories to best friend.

The second hypothesis was that there would be a significant difference in self-disclosure between the two groups at the end of the semester. From this hypothesis three different results were expected.

4. At the end of the semester the high self-disclosure groups will have disclosed a significantly greater amount of information in each of the five categories to the instructor.

5. At the end of the semester the high self-disclosure groups will have disclosed a significantly greater amount of information in each of the five categories to classmates.

6. At the end of the semester the high self-disclosure groups will have disclosed a significantly greater amount of information in each of the five categories to best friend.

Methodology

Six undergraduate classes in interpersonal communication containing a total of 125 students participated in the study over a period of one entire semester. Students were unaware that the study was being conducted and were asked to fill out questionnaires as a normal part of the course periodically throughout the semester. Two classes were treated to the control conditions: instructor revealed little or no information about self. All examples used in the control classes and comments on written assignments were in the form of the third person

so as to disassociate any connection between the examples and the instructor. Four classes were subjected to the experimental treatment: at least four self-referent statements (revealing personal information about the instructor according to the categories listed on the JSDQ) were used in each of these class periods in lectures as personal examples and in small groups as feedback.

All subjects were asked to fill out the JSDQ (explained under "instrument") four times during the course of the semester. At the end of the term, each student participated in a self-disclosing exercise rated by independent judges on a quantity scale of self-disclosure. This exercise asked that students bring an object to class that represented how they saw themselves as a person and as a communicator. They were instructed to be particularly aware of how their attitudes, tastes, personality, and feelings about studies affected how they saw themselves (categories represented on the JSDQ). Each student was given five minutes to complete this assignment in class.

On three separate occasions, each class participated in self-disclosure exercises specifically designed to give them the opportunity to self-disclose in each of the five areas listed on JSDQ.[1]

Statistical Design

Analysis of variance was employed to determine the effects of the experimental manipulations. Factor A1 was Teacher 1, Factor A2 was Teacher 2, Factor B1 was groups with low self-disclosing instructor (LSD), Factor B2 was groups with high self-disclosing instructor (HSD). The repeated measure (administration of questionnaire four different

times) was treated as a third factor, Factor C1, C2, C3 and C4, to indicate the four replications.

Each teacher directed two HSD groups and one LSD group. All three factors were tested across 15 different variables in self-disclosure listed previously. Analysis of variance was also used to test the the amount of self-disclosure students perceived the teachers exhibiting across the five categories on the inventory and to letermine if significant differences existed between subjects' actual behavior in a final self-disclosure exercise across all five categories.

Results

Two experimental conditions were compared: groups with high teacher self-disclosure (HSD) and groups with low teacher self-disclosure (LSD). These groups were compared across five different categories of self-disclosure: attitudes and opinions, tastes and interests, work and studies, personality, and emotions. These five categories were compared across three target persons: instructor of class, classmates in this particular class, and best friend outside of class.

When the interaction effect was tested beyond the experimental conditions and the four questionnaires, repeated over time throughout the semester starting with the second week of class and ending with the last week of class, results were significant in four cases. The HSD groups self-disclosed significantly more information about themselves at the .01 level in each of the following categories: attitudes and opinions to best friend, tastes and interests to best friend, work or

studies to best friend, and personality to best friend. All of these results supported hypothesis #3.

Insert Table 1 here

A simple main effects test was conducted on all four interaction groups of means and in all four cases scores were significant at the .025 level for the experimental groups but not the control groups.[2] This indicates a true significance at one level of the interaction (the experimental groups) and thus a Scheffe test was conducted to determine at what level of the repeated measures the significance occured.[3] For the category of "attitudes and opinions to best friend" significance occured between measure #2 and all other measures, between measure #3 and measure #1, measure #4 and measure #2, and measure #4 and measure #3. All of the differences increased over time indicating that the HSD groups' self-disclosure increased significantly more than the LSD groups and increased significantly more over each time period in this category. The other three categories revealed significant differences between time period #2 and other time periods. In these last three cases the self-disclosure of the HSD groups increased significantly on the second repeated measure and then dropped to the level of the LSD groups.

The results of an analysis of the overall difference of the two groups' amount of self-disclosure revealed that five of the tests on the fifteen variables were significant at either the .05 or .01 level. The HSD groups were found to self disclose significantly more information about themselves in each of the following categories: work or studies to instructor ($p < .05$, support for hypothesis #4);

attitudes and opinions to classmates ($p < .01$); work or studies to classmates ($p < .05$); tastes and interests to classmates ($p < .01$) and personality to classmates ($p < .01$) all in support of hypothesis #5.

Insert Table 2 here

A comparison of means for both the HSD groups and the LSD groups shows a consistent increase of self-disclosure from the first test to the fourth. While both groups increased in the amount of self-disclosure across all variables, the HSD groups increased significantly more than the LSD groups only in the categories listed above.

A check of the students' actual behavior was made through evaluations by eight judges of a taped self-disclosure exercise conducted at the end of the semester. All eight judges were faculty or graduate students in experimental studies in speech communication. None of the judges had knowledge of which experimental group the subject had participated in and all listened to the same proportion of HSD and LSD subjects. The judges were given the following directions:

> You are asked to listen to a five minute presentation for each subject and rate that presentation on the amount of self-disclosure exhibited according to the following scale: 1=said nothing about this aspect of self, 4=talked in general terms about this category, 7=talked fully in complete detail about this item. Use ratings of 2 and 3 to indicate degrees of low self-disclosure and 5 and 6 to indicate degrees of high self-disclosure.

Each subject was rated in all five categories. Each category listed suggested topics that might be discussed as follows: attitudes and

opinions--personal opinions about other religious groups, the present government, racial integration, sexual morality, and standards of attractiveness; tastes and interests--in music, movies, clothing, parties or social gatherings, and spending spare time; work or studies--shortcomings and handicaps in studies, strong points in studies, appreciation by others, ambitions and goals, and feelings about rewards; personality--aspects of one's personality, one's dislikes, aspects worried about, feelings of attractiveness to the opposite sex, what causes feelings of depression, worry, and elation; and finally emotions--willingness to tell others how one honestly feels about them or about self, how open one is with own emotions, and how one responds to others' display of emotions.

Two of the results on the five variables were significant at either the .01 or .05 level. The HSD groups were rated higher in the amount of self-disclosure by the judges in each of the following categories: tastes and interests ($p < .05$) and work or studies ($p < .01$).

Insert Table 3 here

Finally, two checks were made on the instructor's experimental control of the amount of self-disclosure demonstrated in the classroom. One of the judges attended the two instructors' classes four different times during the semester and rated the number of self-referent statements made by the instructor in each condition without knowledge of which class was under HSD or LSD. Both instructors were rated as giving one or no self-referent statement in the LSD groups and four

or more in the HSD groups (this ranged to 8 self-referent statements during one class period).

In addition, subjects were asked to rate their own instructor's amount of self-disclosure. Each instructor was rated three different times during the semester (beginning, middle, and end) in each of the five categories. On all five variables the HSD groups perceived the instructor as giving more self-disclosure than the LSD groups at the p .01 level. When the interaction effect was tested between the amount

Insert Table 4 here

of instructor self-disclosure in each of the experimental conditions and the three times the ratings were administered, significant differences resulted for two of the variables: tastes and interests (p .01) and personality (p .04).

Insert Table 5 here

Conclusions and Implications

Significant differences between the experimental groups occurred when self-disclosure was rated by subjects toward their classmates or best friends. The only variable that indicated significant self-disclosure to the instructor was work or studies. It would seem logical that that category, above all others, would be discussed more between student and teacher. Since the HSD groups disclosed a greater amount in this area, it suggests that more HSD students felt free to talk about their studies with the instructor but not necessarily in the other four areas.

The emotions category was not significant for any variable. A possible reason for this could be, that emotions are perceived by the students as the category with the highest risk, and students may see the classroom as an inappropriate environment in which to actually display emotions.

It is interesting that the four variables found to be significant with the interaction of experimental conditions with repeated measures were all directed toward the best friend outside of class (Hypothesis #3). The reason this target person was included on the questionnaire was because of an earlier finding by Culbert (1968) that found significant self-disclosure to an outside person but no difference within the experimental condition itself. This has interesting implications for the "carry-over" effect of an interpersonal communication class. The goal of many such classes is to help the student apply the theories and concepts outside the classroom in their daily lives. It would seem that when the instructor self-discloses to a greater extent, this "carry-over" effect is more evident. Also the fact that the significant difference in the interaction effects occurred early in the study tends to support the findings by Culbert (1968) that groups with high self-disclosing leaders will reach a higher level of self-disclosure sooner than groups with low self-disclosing leaders.

Hypothesis #4, that HSD groups will disclose more information to the instructor across all five categories, was supported only in one of the five categories. Hypothesis #5 (to classmates) was supported in four out of five of the categories, and Hypothesis #6 was not

supported at the .05 level. It would appear, when disregarding repeated measures, that the HSD group disclosed significantly more to other classmates but not to the instructor or best friend.

This study focused on the amount of self-disclosure and made no attempt to evaluate the quality of self-disclosure. Perhaps subjects viewed some items of self-disclosure more risky than other items. Certainly replication of this study, with the addition of evaluation of quality rather than or in addition to quantity, would be desirable. Also, the fact that both instructors were female may have had an effect on the amount of SD exhibited by both males and females. A study conducted comparing the differences between female instructors with male and female subjects, and male instructors with both male and female subjects, might raise some interesting hypotheses about male-female interaction.

A degree of uniqueness is offered by this study, because, unlike previous research on self-disclosure where the experimenter often has only one encounter with his subjects, these experimentors met with their subjects throughout an entire semester. Furthermore, this study measured, in addition to self reports, coders' reports on the subjects actual self-disclosure in comparison with other studies that only measure self-reports. Self-disclosure research is an important aspect of our field and this paper has offered new discoveries as well as viable avenues for further research.

TABLE 1

INTERACTION EFFECTS

Analysis of Variable 11--Attitudes to Best Friend

SOURCE	M.S.	D.F.	F-RATIO	P
Levels of groups	45.617	1.	3.2836	.0670
Repeated measure	72.592	3.	5.2252	.0019*
Groups by Repeated Measure	71.661	3.	5.1582	.0020*
WITHIN	13.893			

Analysis of Variable 12--Interests to Best Friend

SOURCE	M.S.	D.F.	F-RATIO	P
Levels of groups	7.376	1.	.7247	.6004
Repeated Measure	35.112	3.	3.4496	.0164*
Groups by Repeated Measure	59.270	3.	5.8229	.0010*
WITHIN	10.179			

Analysis of Variable 13--Studies to Best Friend

SOURCE	M.S.	D.F.	F-RATIO	P
Levels of groups	25.875	1.	2.0739	.1466
Repeated Measure	45.376	3.	3.6370	.0129*
Groups by Repeated Measure	59.888	3.	4.8001	.0030*
WITHIN	12.476			

Analysis of Variable 14--Personality to Best Friend

SOURCE	M.S.	D.F.	F-RATIO	P
Levels of Groups	2.873	1.	.2414	.6293
Repeated Measure	30.638	3.	2.5747	.0523*
Groups by Repeated Measure	30.639	3.	2.5747	.0523*
WITHIN	11.900			

* Significant

TABLE 2

MAIN EFFECTS

Analysis of Variable 4--Self-Disclosure of Work or Studies to Instructor

SOURCE	M.S.	D.F.	F-RATIO	P
Levels of Groups	7.383	1	3.5592	.0565*
Repeated Measure	107.107	3	51.6377	.0000*
Groups by Repeated Measure	1.577	3	.7603	.5198

MEANS FOR LEVELS OF GROUPS

LSD Group	HSD Group
5.8282	6.0897

Analysis of Variable 6--Attitudes to Classmates

SOURCE	M.S.	D.F.	F-RATIO	P
Levels of Groups	28.543	1	7.7699	.0057*
Repeated Measure	126.456	3	34.4234	.0000*
Groups by Repeated Measure	1.312	3	.3571	.7870

MEANS FOR LEVELS OF GROUPS

LSD Group	HSD Group
6.6849	7.1990

Analysis of Variable 7--Interests to Classmates

SOURCE	M.S.	D.F.	F-RATIO	P
Levels of Groups	25.550	1	5.2692	.0209*
Repeated Measure	138.416	3	28.5449	.0000*
Groups by Repeated Measure	1.411	3	.2909	.8337

MEANS FOR LEVELS OF GROUPS

LSD Group	HSD Group
6.8584	7.3548

Table 2 (Cont'd.)

Analysis of Variable 9--Personality to Classmates

SOURCE	M.S.	D.F.	F-RATIO	P
Levels of Groups	26.723	1	7.3481	.0070*
Repeated Measure	135.833	3	37.3502	.0000*
Groups by Repeated Measure	.673	3	.1850	.9064

MEANS FOR LEVELS OF GROUPS

LSD Group	HSD Group
6.4967	6.9942

TABLE 3

RATERS' EVALUATION OF SUBJECTS' SELF-DISCLOSURE

Analysis of Variable 2--Tastes and Interests

SOURCE	M.S.	D.F.	F-RATIO	P
Levels of Groups	16.636	1	5.5961	.0176*
Different Raters	14.854	1	4.9966	.0246*
Groups by Raters	35.097	1	11.8053	.0010*

Analysis of Variable 3--Work or Studies

SOURCE	M.S.	D.F.	F-RATIO	P
Levels of Groups	17.559	1	7.7087	.0060*
Different Raters	17.559	1	7.7087	.0060*
Groups by Raters	.000	1	.0000	.9914

TABLE 4

SUBJECTS' RATINGS OF INSTRUCTORS' SELF-DISCLOSURE

Analysis of Variable 1--Instructors' Attitudes

SOURCE	M.S.	D.F.	F-RATIO	P
TOTAL	3.030	362.		
BETWEEN	14.311	11.		
Instructors	51.701	1.	19.3157	.0001*
Levels of groups	61.791	1.	23.0853	.0000*
Repeated measures	12.866	2.	4.8069	.0089*
Instructors by groups	.394	1.	.1473	.7033
Instructors by Repeated measures	2.634	2.	.9842	.6236
Groups by repeated Measures	3.899	2.	1.4567	.2329
Instructors by groups By repeated measures	2.367	2.	.8842	.5832

Analysis of Variable 2--Instructors' Interests

SOURCE	M.S.	D.F.	F-RATIO	P
TOTAL	4.416	362.		
BETWEEN	32.684	11.		
Instructors	6.286	1.	1.7805	.1796
Levels of groups	226.096	1.	64.0398	.0000*
Repeated measures	35.268	2.	9.9894	.0002*
Instructors by groups	7.511	1.	2.1274	.1416
Instructors by Repeated measures	.185	2.	.0524	.9488
Groups by repeated Measures	22.978	2.	6.5084	.0021*
Instructors by groups By repeated measures	1.387	2.	.3928	.6812

Table 4--Subjects Ratings of Instructors' Self-Disclosure (continued)

Analysis of Variable 3--Instructors' Work

SOURCE	M.S.	D.F.	F-RATIO	P
TOTAL	4.677	362.		
BETWEEN	18.685	11.		
Instructors	12.942	1.	3.0540	.0776
Levels of groups	121.720	1.	28.7232	.0000*
Repeated measures	27.130	2.	6.4021	.0023*
Instructors by groups	2.282	1.	.5386	.5296
Instructors by Repeated measures	.403	2.	.0950	.9089
Groups by repeated Measures	4.181	2.	.9866	.6245
Instructors by groups By repeated measures	2.583	2.	.6095	.5493

Analysis of Variable 4--Instructors' Personality

SOURCE	M.S.	D.F.	F-RATIO	P
TOTAL	3.703	362.		
BETWEEN	27.110	11.		
Instructors	2.567	1.	.8645	.6444
Levels of groups	171.943	1.	57.9070	.0000*
Repeated measures	50.082	2.	16.8668	.0000*
Instructors by groups	3.785	1.	1.2746	.2585
Instructors by Repeated measures	.214	2.	.0720	.9301
Groups by repeated Measures	8.884	2.	2.9920	.0499*
Instructors by groups By repeated measures	.776	2.	.2615	.7737

Table 4--Subjects' Ratings of Instructors' Self-Disclosure (continued)

Analysis of Variable 5--Instructors' Emotions

SOURCE	M.S.	D.F.	F-RATIO	P
TOTAL	5.057	362.		
BETWEEN	20.478	11.		
Instructors	2.723	1.	.5954	.5529
Levels of groups	81.499	1.	17.8186	.0001*
Repeated measures	53.691	2.	11.7388	.0001*
Instructors by groups	2.660	1.	.5815	.5473
Instructors by Repeated measures	2.061	2.	.4507	.6435
Groups by repeated Measures	7.962	2.	1.7409	.1748
Instructors by groups By repeated measures	5.475	2.	1.1971	.3030

TABLE 5

INTERACTION EFFECT ON INSTRUCTORS' SELF-DISCLOSURE

Variable 2--Instructors' Tastes

B BY C	Repeated Measures 1	2	3
Low Self Disclosure Groups B1	6.6205	5.2932	6.8977
High Self Disclosure Groups B2	7.2298	8.3659	9.1942

Variable 4--Instructors' Personality

B BY C	Repeated Measures 1	2	3
Low Self Disclosure Groups B1	5.4068	5.5977	6.1886
High Self Disclosure Groups B2	6.2410	7.1444	8.1492

B1 = LSD B2 = HSD C1 - 4 = Repeated Measures

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Footnotes

1. These exercises are available upon request from the authors.

2. According to Kirk (1968) when testing for simple main effects the over-all significance level (in this case .05) for a main-effects test, should be divided evenly among the collection of simple main-effects tests (in this case .05 is divided by 2 representing two levels of B, to reach a significance level of .025).

3. Using the Scheffe formula,

$$S = (k-1)\, F_{,\, V_1,\, V_2} \qquad \text{MS error} \qquad \frac{(C)^2}{h}$$

significant differences occured on 3 categories between the means of repeated measure #2 and each of the other means.